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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,568	02/15/2002	Nicholas P. Wilt	14917.0154USU2/MS300309.0	3290

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EXAMINER	
PAPPAS, PETER	

ART UNIT	PAPER NUMBER
2628	

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/077,568	WILT ET AL.	
	Examiner	Art Unit	
	Peter-Anthony Pappas	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *18* is/are allowed.

6)☒ Claim(s) *11,12 and 14-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

1. Claim 18 is allowed.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claim 16 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. While abstract ideas, natural phenomena and laws of nature are not eligible for patenting, methods and products employing abstract ideas, natural phenomena, and laws of nature to perform a real-world function may well be. For claims including such excluded subject matter to be eligible, the claim must be for a practical application of the abstract idea, law of nature, or natural phenomenon. Diehr, 450 U.S. at 187, 209 USPQ at 8 ("application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection."); Benson, 409 U.S. at 71, 175 USPQ at 676 (rejecting formula claim because it "has no substantial practical application"). To satisfy section 101 requirements, the claim must be for a practical application of the § 101 judicial exception, which can be identified in various ways: the claimed invention "transforms" an article or physical object to a different state or thing; the claimed invention otherwise produces a useful, concrete and tangible result.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 11, 12, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Engstrom et al. (U.S. Patent No. 5, 801, 717).

5. In regards to claim 11 Engstrom et al. teaches a display device interface and methods for managing surface memory through the use of surface structures. Surface structures can be implemented through the use of surface objects. A display device interface can be represented by a display device object, which creates and maintains additional objects such as surface objects, for the display device. To create a surface object a function is called in which a new surface object is created that is representative of a surface and the underlying surface memory that holds said surface. Flipping structures can be created in this manner and each represent a front buffer, and one or more back buffers (column 4, lines 26-67; column 18, lines 27-36). The front buffer typically holds a completed pixmap that is ready for use through the display device interface (column 14, lines 13-15). Surface structures can also include overlays, which refer to an image layer that is composited (merged) with another image layer or pixmap (column 12, lines 62-67; column 13, lines 1-14). The collection of surface objects, be it one or more, under the control of the display device object is considered the presentation surface set. It is noted that the primary presentation surface, presentation

back buffer, overlay primary surface and overlay back buffer are all considered to be and/or include buffers for the storage of information. A primary presentation surface and overlay primary surface are considered front buffers, while presentation back buffer and overlay back buffer are considered back buffers.

Engstrom et al. teaches that a surface can also represent an alpha buffer or Z buffer, wherein alpha and Z buffers are just different types of surfaces. An alpha buffer is a surface that comprises an array of alpha values. Each alpha value describes the degree to which a corresponding pixel is transparent. A Z buffer is a surface that comprises bit depth information used to determine whether corresponding pixels are visible or are obscured (column 12, lines 55-61). A surface can be an overlay or a sprite. An overlay and a sprite are synonymous in the context of the display device interface 50; they refer to an image layer that is composited with another image layer. An overlay typically covers less than the entire display screen, but can be the same size as the display screen in some cases. When overlays are composited with other pixmaps, they typically have a depth value or Z order associated with them so that the display device interface or underlying hardware can determine how to composite them. The pixels in an overlay may also have associated alpha values that define their transparency. This transparency information is used along with the depth data or Z order to composite the pixel values in a source and destination image layer (column 13, lines 1-14).

Engstrom et al. teaches a display hardware 56, which includes hardware responsible for the display of 2D and 3D rendered graphics and animation, video, text

and still images, application programs ("applications") 52, a display device interface 50 (with an optional hardware emulation layer 58) and a hardware abstraction layer (HAL) 54, which can be implemented in display hardware 56 (column 6, lines 41-67; column 7, lines 1-4; Fig. 2). Said display device interface 50 serves as an interface between said application programs and display hardware (column 8, lines 23-28). Elements 50 and 54 are considered the display interface driver. It is noted that said display hardware 56 and said HAL, which can be implemented on said display hardware 56 or via software, is considered responsible for compositing said plurality of image layers.

6. In regards to claim 12 Engstrom et al. teaches that the HAL can be a part of the display hardware 56 or can be implemented in software (column 6, lines 53-58).

7. In regards to claim 14 Engstrom et al. teaches front and back buffers are linked to one another via an attachment link (column 14, lines 36-38; Fig 1, element 162). Pointers controlled by the display interface are used to swap data between front and back buffers (column 14, lines 39-56).

8. In regards to claim 15 Engstrom et al. teaches a computer system 20, which includes a CPU 28, memory system 30 and bus structure 32. Memory system 30 comprises of main memory 38 and secondary storage 40, wherein main memory includes RAM and ROM and secondary storage includes computer-readable medium such as floppy disks, hard drives, etc. (column 5, lines 38-64; column 6, lines 29-39). It is noted that said main memory and secondary storage are considered to provide the means by which computer program instructions can and are stored. The rationale disclosed in the rejection of claim 11 is incorporated herein.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Engstrom et al. (U.S. Patent No. 5, 801, 717), as applied to claims 11, 12, 14 and 15.

11. In regards to claim 12 Engstrom et al. fails to explicitly teach that the display interface driver comprises firmware executable components.

Official Notice is taken that that both the concept and advantages of including a firmware executable in a display interface driver are well know and expected in the art. Thus, it would have been obvious to one skilled in the art, at the time of the applicant's invention, to include a firmware executable in a display interface driver, because by doing so would allow for the display interface driver and any connected hardware, accessed through said display interfaced drive, to be accessed via standard interfacing means and thus not require additional modifications to be made so to allow for the use of said display interface drive and/or connected hardware.

Response to Arguments

12. The prior claim objections and prior 35 U.S.C. 101 rejections have been withdrawn in lieu of Applicant's remarks.

13. In regards to Applicant's remarks in regards to claim 11 Engstrom et al. teaches that a surface can also represent an alpha buffer or Z buffer, wherein alpha and Z

buffers are just different types of surfaces. An alpha buffer is a surface that comprises an array of alpha values. Each alpha value describes the degree to which a corresponding pixel is transparent. A Z buffer is a surface that comprises bit depth information used to determine whether corresponding pixels are visible or are obscured (column 12, lines 55-61). A surface can be an overlay or a sprite. An overlay and a sprite are synonymous in the context of the display device interface 50; they refer to an image layer that is composited with another image layer. An overlay typically covers less than the entire display screen, but can be the same size as the display screen in some cases. When overlays are composited with other pixmaps, they typically have a depth value or Z order associated with them so that the display device interface or underlying hardware can determine how to composite them. The pixels in an overlay may also have associated alpha values that define their transparency. This transparency information is used along with the depth data or Z order to composite the pixel values in a source and destination image layer (column 13, lines 1-14). Applicant's remarks have been fully considered but are not deemed persuasive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter-Anthony Pappas whose telephone number is 571-272-7646. The examiner can normally be reached on M-F 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Peter-Anthony Pappas
Examiner
Art Unit 2628

PP

ULKA CHAUHAN
SUPERVISORY PATENT EXAMINER